

maintained the rejection of claims 27, 28, and 30-33 under 35 U.S.C. § 103(a) as unpatentable over Kume et al., U.S. Patent No. 5,188,976 ("Kume") in view of Tada, U.S. Patent No. 5,497,021 ("Tada"). Applicants respectfully traverse these rejections.

Response to Rejections under 35 U.S.C. § 112, first paragraph

In this rejection, the Examiner maintained the reasons presented in the Office Action dated June 6, 2002. Further, in response to Applicants' arguments advanced in the Response filed September 4, 2002, the Examiner alleged that Applicants' response does not deal with the issue of the rejection. Specifically, the Examiner stated that "the rejection deals with the lack of an insulation layer between the gate and the semi conducting substrate" (FOA, p. 3). In response, Applicants assert that the Examiner's allegations and grounds for rejection are improper.

A rejection under 35 U.S.C. § 112, first paragraph, involves an analysis of whether a particular claim is supported by the disclosure. This analysis requires a determination of whether that disclosure, when filed, contained sufficient information regarding the subject matter of the claims as to enable one skilled in the pertinent art to make and use the claimed invention. See M.P.E.P. § 2164.01 (Aug. 2001 8th Ed.), p. 2100-174.

As advanced in the September 4th response, the specification illustrates and describes two transistors which are connected by a side wall as recited in the claims. For example, Figures 10, 13A-D, and 20B (related text on pages 32-38, 45, and 46) illustrates and describes two transistors which are connected by a side wall.

Furthermore, the Examiner fails to clearly address why the specification does not enable the claimed invention. In the rejection and response to Applicants' arguments, the Examiner merely addressed the subject matter recited in the claims, but does not

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

establish a factual basis to support his allegation that the specification lacks an enabling disclosure (or the subject matter). Thus, the rejection under 35 U.S.C. § 112, first paragraph, is improper. Accordingly, Applicants request that the Examiner withdraw this rejection.

In making the various references to the specification and drawings set forth above, it is to be understood that Applicants are in no way intending to limit the scope of the claims to the exemplary embodiments shown in the drawings and described in the specification. Rather, Applicants expressly affirm that they are entitled to have the claims interpreted broadly, to the maximum extent permitted by statute, regulation and applicable case law.

Response to Rejections under 35 U.S.C. § 112, second paragraph

In this rejection, the Examiner maintained the reasons presented in the Office Action dated June 6, 2002. Further, in response to Applicants' arguments advanced in the response filed September 4th, the Examiner alleged that Applicants' response does not deal with the issue of the rejection. More particularly, the Examiner alleged that the rejection is not based on ambiguity of sidewall location but ambiguity in which channel direction Applicant claims (FOA, p. 3). In response, Applicants assert that the Examiner's rejection is improper.

As advanced in the September 4th response, the claims clearly recite the location of the sidewalls. Specifically, claim 27 recites "wherein a side wall of said first gate electrode at one end of a channel direction is connected to a side wall of said second gate electrode at one end of the channel direction." Thus, the channel direction as claimed defines the location of the sidewalls. Furthermore, a channel direction usually refers to one direction (i.e., the direction between the source and drain). Thus,

Applicants submit that the Examiner's rejection under 35 U.S.C. § 112, second paragraph, is improper. Accordingly, Applicants request that the Examiner withdraw this rejection.

Response to Rejection under 35 U.S.C. § 103(a)

In this rejection, the Examiner maintained the reasons presented in the June 6th Office Action. In response, Applicants assert that a *prima facie* case of obviousness has not been established because Kume and Tada, taken alone or in combination, fail to teach or suggest all the claim elements.

In order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, the prior art reference (or references when combined) must teach or suggest all the claim elements. Furthermore, "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." See M.P.E.P. § 2143.01 (8th Ed., Aug. 2001), *quoting In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970). Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or to combine reference teachings. Third, there must be a reasonable expectation of success. See M.P.E.P. § 2143 (8th Ed. 2001), pp. 2100-122 to 127.

Claim 27 is directed to a semiconductor device comprising a combination of elements including, *inter alia*, "a side wall of said first gate electrode at one end of a channel direction is connected to a side wall of said second gate electrode at one end of the channel direction."

In rejecting claim 27, the Examiner maintained the reasons presented in the June 6th Office Action. Specifically, the Examiner alleged that Kume describes all the

elements of claim 27 except for a side wall of the first gate electrode at one end of a channel direction being connected to a side wall of the second gate electrode at one end of the channel direction, but alleged Tada teaches this claim element (Office Action, p. 5). In the September 4th Response, Applicants pointed out that Tada does not teach or suggest at least that “a side wall of said first gate electrode at one end of a channel direction is connected to a side wall of said second gate electrode at one end of the channel direction.” In response to Applicants’ arguments, the Examiner alleged that Tada, in Fig. 3d, illustrates an element 21 connecting gate electrodes sidewalls 13a and 13b (FOA, p. 4). Applicants respectfully assert that the Examiner has misconstrued Tada.

Tada, Fig. 3d, illustrates “[a] step cross sectional [view] showing a part of a production process of the semiconductor device shown in Fig. 1.” Tada, col. 4, lines 50-52 (emphasis added). Fig. 3d, however, does not even illustrate gate electrodes 13a and 13b. Fig. 3d only illustrates polysilicon layer 23 which is patterned to form gate electrodes 13a and 13b. Tada, col. 7, lines 10-14. Tada, Fig. 1, illustrates the complete constructed semiconductor device. However, Tada, Fig. 1, fails to disclose that the sidewalls of gate electrodes 13a and 13b are connected. See Tada, col. 8, lines 1-11. Thus, contrary to the Examiner’s allegations, Tada fails to teach or suggest at least, “a side wall of said first gate electrode at one end of a channel direction is connected to a side wall of said second gate electrode at one end of the channel direction,” as recited in claim 27.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

Thus, a *prima facie* case of obviousness has not been established for claim 27 (Kume also fails to teach or suggest this claim element, See September 4th Response for a complete discussion). Accordingly, for at least this reason, claim 27 is allowable.

Claims 28 and 30-33 are allowable at least due to their dependence from allowable claim 1. "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." M.P.E.P. § 2143.03, p. 2100-126 *citing In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Conclusion

In view of the foregoing remarks, Applicants submit that the rejection presented in the Final Office Action are improper. Applicants therefore request that the Examiner reconsider the subject application, and timely allow the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: February 10, 2003

By: 

Bryan S. Latham
Reg. No. 49,085

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com